

MONTHLY WEATHER REVIEW,

DECEMBER, 1880.

(General Weather Service of the United States.)

WAR DEPARTMENT,

Office of the Chief Signal Officer,

DIVISION OF

TELEGRAMS AND REPORTS FOR THE BENEFIT OF COMMERCE AND AGRICULTURE.

INTRODUCTION.

In preparing this REVIEW the following data, received up to January 20th, have been used, viz: the regular tri-daily weather charts, containing the data of simultaneous observations taken at 144 Signal Service stations and 14 Canadian stations, as telegraphed to this office; 182 monthly journals and 168 monthly means from the former, and 14 monthly means from the latter; reports from 3 Sunset stations; 248 monthly registers from Voluntary Observers; 60 monthly registers from United States Army Post Surgeons; Marine Records; International Simultaneous Observations; monthly reports from Voluntary Observers in, and the local Weather Services of Iowa and Missouri and of the Central Pacific Railway Co.; reliable newspaper extracts; special reports.

BAROMETRIC PRESSURE.

Upon Chart No. II is shown by the isobaric lines (in black), the distribution of atmospheric pressures over the United States for December, 1880. The area of highest pressure lies somewhat farther westward than usual and covers the greater part of the country from the Mississippi valley westward to the eastern Rocky Mountain slope. On the Pacific slope, the high-pressure prevailed on the southern instead of the northern coast.

Departures from Normal Values for the Month.—By comparison with the average for the past eight or nine years, it is found that the barometric pressure for December, 1880, ranged from 0.05 inch to 0.10 below the mean in the Atlantic States; greatest departures, —0.10 at Norfolk and Wilmington, and —0.12 at New Haven and Wood's Holl. Over the Missouri and Upper Mississippi valleys, an equal excess of pressure prevailed; greatest departures, +0.05 inch at Keokuk, La Crosse and St. Paul in the latter, and +0.11 at Bismarck and Yankton in the former, district. On the Pacific coast, the pressure was normal at San Diego, 0.10 below it at San Francisco, and 0.24 below at Portland, Oregon.

Local Barometric Ranges, from readings reduced to sea-level, were greater than usual, and exceeded 0.75 inch over the entire country, except southern Florida, southern California and at a few scattered stations in the southern Plateau district. The ranges in the Atlantic and Gulf States generally varied but little from 1.00 inch. The greatest ranges were in that portion of the Lake region and Upper Mississippi valley, over which the centre of low-area No. V passed; they increased gradually northeastward from 1.47 at Leavenworth to 1.79 (the largest in the country) at Escanaba. The smallest range was 0.49 at Key West. Other noticeable ranges were 1.70 at Dodge City, 1.48 at Missoula and 1.27 at Umatilla.

General Barometric Range.—The extreme range of the atmospheric pressure, reduced to sea-level, was 2.15 inches, from 30.97 at Fort Buford on the 26th, to 28.82 at Dodge City on the 4th.

Areas of High Pressure during December, 1880, were eight in number, three of which were slight and unimportant encroachments of high pressures from the Pacific ocean. The five other